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1987 SALARIES OF NON-ACADEMIC CHEMISTS

ANALYSIS OF THE AMERICAN CHEMICAL SOCIETY'S 1987 SURVEY OF SALARIES AND EMPLOYMENT

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CONTENTS

	Page
Acknowledgements	iv
Summary and Comment	1
A Method for Estimating Average Salaries	3
List of Tables	5
Technical Notes	7
Geographic Regions	8
Metropolitan Areas	9
Tables	10
Survey Questionnaire	45

ACKNOWLEDGEMENTS

Each year, the American Chemical Society conducts salary surveys of its members. This report is one of four presenting detailed results of the 1987 Salary and Employment Status Survey. The four reports are: *1987 Salaries of Non-academic Chemists, 1987 Salaries of Academic Chemists, 1987 Salaries of Non-academic Chemical Engineers,* and *1987 Employment Status and Demographic Characteristics of ACS Members.* A summary of the survey findings was published in the June 29, 1987 issue of *Chemical and Engineering News.*

General oversight of the survey and its analysis was provided by the ACS joint Board-Council Committee on Economic Status, headed by Valerie D. Kuck[1], and by its subcommittee on surveys, chaired by Jack G. Kay[2]. The committee expresses its gratitude to the 12,000 ACS members who provided a valuable service to the profession by completing the survey questionnaire.

Joan Burrelli and Nguyen Bailey of ACS Statistical Services, managed by John Robert Jones, conducted this year's survey and prepared this report. Dr. Burrelli wrote the summary and comment on the following pages.

Robert K. Neuman, Head
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SUMMARY AND COMMENT

Joan S. Burrelli*

Salaries in Industry

This year, median salaries for all degree levels were only slightly higher than those last year. The overall median salary for PhD industrial chemists increased 5% (to $52,500) while master's degree chemists reported an increase of 3% (to $41,300) and bachelor's degree chemists' median salary increased 1% (to $34,900). Because the Consumer Price Index rose approximately 3% from March 1986 to March 1987, those salary increases in some cases represent decreases in constant dollars.

$52,500 for PhD, up 5% from 1986, up 2% in constant dollars
$41,300 for MS, up 3% from 1986, unchanged in constant dollars
$34,900 for BS, up 1% from 1986, down 2% in constant dollars

Salaries within industry vary according to type of industry, work function, work specialty, length of experience, and degree of responsibility. Salaries for chemists employed in industry are generally higher for those working in the petroleum industry, those in R&D management, physical chemists, those with greater experience, and those with greater responsibility.

Salaries differed only slightly by geographic region. The median salary of PhDs ranged from a high of $54,200 in the Pacific and West South Central regions to a low of $47,600 in the Mountain region. Regional differences in salaries are largely a function of differences in type of industry.

As in the past, salaries for women chemists were lower than those for men. The median salary for women PhDs in industry was 85% of that for men. The difference in men's and women's median salaries is partly due to differences in experience. When length of experience is taken into account, the salary gap narrows. For example, the median salary for women PhDs in industry with 5-9 years since the BS is 98% that for men with comparable experience. The difference in men's and women's median salaries can also be explained by differences in work function and responsibility. Men are more likely than women to be in management and women are more likely than men to be in research.

Salaries in Government

In 1987, the overall median salary was $50,300 for PhD chemists in government, $33,200 for masters' degree chemists, and $32,000 for bachelors' degree chemists.

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*Dr. Burrelli is Senior Research Associate in the ACS Office of Statistical Services.

Although government chemists' salaries are lower, on average, than industrial chemists' salaries, salaries within government vary according to the same factors as salaries within industry do: work function (e.g., management, applied research), work specialty, length of experience, and degree of experience. Salaries of chemists employed in government are generally higher for those in R&D management, physical chemists, those with greater experience, and those with greater responsibility.

Salaries of women chemists in government are lower than those for men. The median salary for women PhDs in government was 83% of that for men. This difference is largely due to differences in experience, work function, and level of responsibility. Women chemists in government have, on average, less experience and less responsiblity than men, and women chemists are less likely than men to be in management.

NOTE: Results of the 1987 ACS Salary and Employment Status Survey are presented in a new format this year. Four separate reports: *1987 Salaries of Non-academic Chemists, 1987 Salaries of Academic Chemists, 1987 Salaries of Non-academic Chemical Engineers,* and *1987 Employment Status and Demographic Characteristics of ACS Members* replace the traditional one report. Also, the format of the tables is new. If you have comments or suggestions to make concerning this format, please contact Joan Burrelli at the ACS Office of Statistical Services (202-872-4433).

A METHOD FOR ESTIMATING AVERAGE SALARIES

A compact summary of the information in this report is possible through a statistical technique known as multiple regression. This technique identifies which characteristics have the greatest effect on salaries, and results in a formula for estimating the average salary of respondents with certain characteristics.

For industrial chemists responding to the 1987 survey, the three characteristics which account for most of the variation among salaries are highest degree, experience (years since B.S. is used to measure experience in ACS surveys), and work function.

Table I displays the factors needed to estimate the average salary for any group of respondents who are industrial chemists with any combination of the listed characteristics.

For example, to estimate the average salary in March 1987 for industrial chemists with the doctorate, 15 to 19 years of experience, and working in R&D management, find the corresponding factors in Table I and multiply them together with the base salary for all industrial chemists:

($23,714) x (1.297) x (1.645) x (1.206) = $61,018

Table I

SALARY FACTORS FOR INDUSTRIAL CHEMISTS

BASE SALARY	$23,714
DEGREE:	
Bachelor's	1.000
Master's	1.051
Doctorate	1.271
MATURITY:	
(Years Since Receiving B.S.)	
0-1	1.000
2-4	1.090
5-9	1.300
10-14	1.479
15-19	1.645
20-24	1.781
25-29	1.940
30-34	1.976
35-39	2.039
40 or more	1.910
WORK FUNCTION:	
Basic Research	1.000
R&D Management	1.206
Applied Research	0.985
General Management	1.174
Marketing	1.050
Production	0.909
Forensic/Lab Analysis	0.864
Writing	0.910
Chemistry Information Services	0.909
Data Processing	0.895
Consulting	0.974
Other	0.980

LIST OF TABLES

	Table Number	Page
SALARIES ON MARCH 1, 1987		
INDUSTRIAL CHEMISTS		
Highest Degree — Years since the BS	1.1.1	10
Men	1.1.2	11
Women	1.1.3	12
Highest Degree — Responsibility Score	1.2.1	13
Men	1.2.2	14
Women	1.2.3	15
Bachelor's Degree Holders		
Years since the B.S. and:		
Work Specialty	1.3.1	16
Work Function	1.3.2	18
Type of Industry	1.3.3	19
Geographic Region	1.3.4	21
State of Residence	1.3.5	22
Selected Metropolitan Areas	1.3.6	23
Master's Degree Holders		
Years since the B.S. and:		
Work Specialty	1.4.1	24
Work Function	1.4.2	25
Type of Industry	1.4.3	26
Geographic Region	1.4.4	28
State of Residence	1.4.5	29
Selected Metropolitan Areas	1.4.6	30
Ph.D. Degree Holders		
Years since the B.S. and:		
Work Specialty	1.5.1	31
Work Function	1.5.2	33
Type of Industry	1.5.3	34
Geographic Region	1.5.4	36
State of Residence	1.5.5	38
Selected Metropolitan Areas	1.5.6	39

GOVERNMENTAL CHEMISTS

Highest Degree and :

Years since the BS	2.1.1	40
Responsibility Score	2.2.1	41
Work Specialty	2.3.1	42
Work Function	2.4.1	43
Sex	2.5.1	44

TECHNICAL NOTES

The target population of the 1987 Salary and Employment Status Survey was those ACS members who had U.S. mailing addresses, were not older than 70, and had neither student, retired, nor emeritus status. On January 31, 1987 the ACS membership totalled 129,808, of which approximately 90,000 were eligible for inclusion in the survey. A systematic sample of 20,000 members with non-chemical engineering degrees (mostly chemists) and all 6,965 members with chemical engineering degrees were selected from the target population.

The survey questionnaires were mailed to this sample of 26,965 members by bulk mail during the week of March 2-6. By the May 15 cut-off date, 11,982 (44.4%) usable questionnaires had been returned.

Members indicating a degree field of chemical engineering on the ACS membership record were oversampled this year in order to produce a separate report on chemical engineers' salaries. To make the data base from which the non-chemical engineers' tables were produced comparable to those of previous years, a random sample of 24% of those oversampled was drawn and included with the 24% sample of non-chemical engineers (the 20,000 out of approximately 83,000 non-chemical engineers eligible for inclusion in the survey).

Definitions

For the purposes of the survey analysis only, the following definitions were used:

Chemist: A respondent who indicated a work specialty of chemistry or biochemistry (categories 2 through 14 of Question I.B. on the questionnaire) or a non-chemistry work specialty (categories 15 and 16) and a degree field of chemistry or biochemistry.

Unemployed: A respondent who is unemployed and seeking employment (category 4 of Question I.D. on the questionnaire).

This report represents the respondents' principal annual salaries as of March 1, 1987. The respondent's age is given as of March 1, 1987. A respondent's state and geographic region refer to place of residence rather than place of employment. A respondent's metropolitan area refers to place of employment. A list of geographic regions and their member states is on page 8 of this report. A list of metropolitan areas and their component 3-digit ZIP codes appears on page 9.

Small Cell Count

If the number of responses in a cell of a salary table is small, then the sample salary statistics for that cell may not accurately estimate the corresponding population salary statistics. In general, a cell containing fewer than 15 responses does not provide a useful estimate of the median salary, and a cell containing fewer than 25 responses does not provide a useful estimate of the 25th or the 75th salary percentile. For this reason, cells containing fewer than 15 responses were suppressed in the tables in this book.

GEOGRAPHIC REGIONS

PACIFIC

Alaska
California
Hawaii
Oregon
Washington

MOUNTAIN

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

WEST NORTH CENTRAL

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

WEST SOUTH CENTRAL

Arkansas
Louisiana
Oklahoma
Texas

EAST NORTH CENTRAL

Illinois
Indiana
Michigan
Ohio
Wisconsin

EAST SOUTH CENTRAL

Alabama
Kentucky
Mississippi
Tennessee

MIDDLE ATLANTIC

New Jersey
New York
Pennsylvania

SOUTH ATLANTIC

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia

NEW ENGLAND

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

METROPOLITAN AREAS

Metropolitan Area	Three-Digit ZIP Codes
Atlanta, GA	300-303
Baltimore, MD	210-214
Boston, MA	017-024
Chicago, IL	463,464,600-606
Cincinnati, OH	410, 450-452, 470
Cleveland-Akron, OH	440-443
Columbus, OH	430-432
Dallas, TX	750-753, 760-762
Dayton, OH	453-455
Denver, CO	800-804
Detroit, MI	480-483
Houston-Beaumont, TX	770-777
Los Angeles, CA	900-918,926-928
Miami, FL	330-333
Newark, NJ	070-076,079
New York, NY	100-108,110-114,116
Philadelphia, PA	189-191, 193, 194
Pittsburgh, PA	150-152
St. Louis, MO	620-622, 630-633
San Francisco, CA	940-951
Washington, DC	200-209, 220-223

See *1987 National Five-Digit ZIP Code and Post Office Directory*, United States Postal Service, for the three-digit ZIP codes corresponding to the above metropolitan areas.

Table 1.1.1

SALARIES of INDUSTRIAL CHEMISTS employed FULL-TIME
according to DEGREE and YEARS SINCE BS
1987 ACS Salary Survey

Degree and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	1336	37,416	15,059	27,500	34,890	44,978
0-1	36	23,027	5,300	19,250	23,000	25,000
2-4	213	25,385	5,452	21,800	25,400	28,185
5-9	332	30,616	6,429	26,000	30,000	35,000
10-14	189	35,873	8,762	30,000	34,500	41,000
15-19	135	41,047	11,568	35,000	40,000	46,000
20-24	104	45,055	10,861	36,698	45,000	53,000
25-29	100	48,248	16,871	40,052	46,100	54,300
30-34	88	51,368	15,266	42,600	48,000	59,250
35-39	113	53,719	22,960	42,000	50,000	60,000
40 Or More	26	44,792	17,337	35,000	42,200	52,000
MS						
Total	794	43,962	15,222	33,400	41,300	51,000
2-4	31	29,946	6,416	26,500	29,146	33,500
5-9	145	32,496	6,401	28,440	32,200	35,400
10-14	166	38,724	8,555	32,825	38,000	43,500
15-19	138	45,037	12,521	37,200	43,276	51,000
20-24	79	47,397	13,313	38,770	44,900	54,112
25-29	74	53,546	13,495	44,550	51,000	62,000
30-34	70	51,589	14,142	41,736	50,000	60,000
35-39	64	57,041	21,006	41,800	54,000	64,950
40 Or More	26	61,497	23,325	49,834	55,000	65,000
PhD						
Total	1834	55,759	16,558	44,000	52,500	63,000
5-9	197	41,432	5,349	39,000	40,600	43,000
10-14	394	46,415	6,989	42,000	45,000	51,000
15-19	337	52,640	10,717	45,800	52,200	59,300
20-24	339	59,909	15,426	51,000	58,000	67,000
25-29	211	65,549	17,393	53,364	62,900	74,000
30-34	162	66,874	21,610	53,000	63,650	75,000
35-39	143	68,988	19,595	55,000	66,500	81,000
40 Or More	51	63,418	16,301	52,000	64,000	77,000

Note: Cells with fewer than 15 cases have been suppressed.

SALARIES of MEN CHEMISTS employed FULL-TIME in INDUSTRY
according to DEGREE and YEARS SINCE BS
1987 ACS Salary Survey

Degree and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	1029	39,417	15,921	28,500	36,400	47,000
0-1	22	23,373	5,586	19,500	23,500	26,000
2-4	133	25,828	5,794	21,800	26,000	28,500
5-9	233	31,009	6,577	26,000	30,800	35,000
10-14	146	36,186	9,089	30,000	34,850	43,000
15-19	110	42,642	11,267	36,000	40,868	46,776
20-24	88	46,111	10,499	38,200	47,500	53,500
25-29	90	49,317	17,245	41,000	46,780	55,500
30-34	80	52,507	15,323	43,500	49,050	60,030
35-39	105	54,380	23,566	42,000	50,000	60,000
40 Or More	22	45,677	18,353	37,000	43,200	52,000
MS						
Total	648	45,518	15,629	34,950	42,500	52,732
2-4	19	32,218	6,887	27,240	32,000	36,500
5-9	99	32,980	6,546	28,500	33,000	36,300
10-14	133	38,759	9,108	32,800	38,000	43,000
15-19	116	45,553	12,595	38,280	43,850	51,000
20-24	67	47,941	13,716	38,770	45,000	58,843
25-29	66	54,447	13,439	45,200	51,152	62,500
30-34	63	52,522	12,689	42,600	51,000	60,000
35-39	60	58,602	20,756	47,500	54,900	65,500
40 Or More	25	61,963	23,682	50,000	56,000	65,000
PhD						
Total	1689	56,508	16,785	44,880	53,000	64,500
5-9	166	41,558	5,570	39,000	41,000	43,200
10-14	347	46,581	6,786	42,000	45,360	51,000
15-19	314	52,609	10,834	45,800	52,000	59,000
20-24	315	60,759	15,526	52,000	59,000	67,300
25-29	203	66,110	17,413	54,000	63,120	75,000
30-34	157	67,353	21,384	54,500	64,000	75,000
35-39	139	69,381	19,451	55,000	66,900	81,000
40 Or More	48	64,201	16,278	52,500	65,450	77,500

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.1.3

SALARIES of WOMEN CHEMISTS employed FULL-TIME in INDUSTRY
according to DEGREE and YEARS SINCE BS
1987 ACS Salary Survey

Degree and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	306	30,727	8,908	24,600	30,000	35,000
2-4	80	24,647	4,773	21,850	24,350	28,000
5-9	99	29,690	5,997	25,000	30,000	33,800
10-14	43	34,810	7,546	30,500	33,700	38,900
15-19	25	34,028	10,371	27,900	32,000	36,000
20-24	16	39,246	11,319	31,500	38,700	45,360
MS						
Total	144	36,912	10,852	30,000	35,017	42,784
5-9	46	31,453	6,014	27,400	31,550	35,000
10-14	33	38,586	5,929	33,300	38,000	43,500
15-19	22	42,316	12,031	33,516	40,085	48,700
PhD						
Total	143	46,960	10,226	40,000	44,760	53,000
5-9	31	40,755	3,964	38,690	40,000	41,160
10-14	47	45,190	8,322	41,000	44,600	50,000
15-19	22	52,697	9,213	44,500	53,250	62,000
20-24	23	48,907	8,270	43,000	47,000	54,000

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.2.1

SALARIES of INDUSTRIAL CHEMISTS employed FULL-TIME
according to DEGREE and RESPONSIBILITY
1987 ACS Salary Survey

Degree and Responsibility	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	1298	37,279	15,018	27,400	34,640	44,472
6.00	28	23,828	4,387	21,358	23,750	26,169
7.00	73	26,445	6,364	22,400	25,300	28,900
8.00	96	29,660	7,774	24,000	27,800	35,000
9.00	121	30,267	8,822	24,000	29,000	35,000
10.00	144	32,502	8,969	25,771	32,000	37,187
11.00	186	35,263	10,066	28,920	33,700	42,000
12.00	144	38,395	10,035	30,580	36,475	45,050
13.00	130	39,490	13,511	29,810	37,250	46,100
14.00	88	39,723	11,824	30,300	38,000	45,500
15.00	70	42,507	10,810	35,463	43,000	49,900
16.00	61	44,658	14,642	34,600	44,000	54,000
17.00	49	47,587	14,697	36,000	48,000	56,000
18.00	43	50,545	17,419	40,000	46,860	60,000
19.00	23	59,387	27,284	46,000	53,000	68,000
20.00	27	72,506	37,537	50,000	60,000	85,200
MS						
Total	889	43,867	15,103	33,400	41,200	51,000
7.00	38	32,323	5,923	29,000	31,442	35,000
8.00	51	33,585	6,854	29,176	33,000	37,404
9.00	67	34,476	8,416	28,500	32,700	38,560
10.00	101	36,609	9,418	30,000	35,000	42,000
11.00	117	41,218	9,930	35,000	40,000	46,000
12.00	123	44,480	12,459	36,000	42,500	50,500
13.00	83	46,077	10,808	38,000	46,000	55,920
14.00	79	48,805	12,351	41,000	46,000	56,000
15.00	50	46,772	13,252	38,000	44,500	55,000
16.00	54	49,246	15,782	40,800	49,500	54,500
17.00	44	52,287	13,406	42,100	51,500	64,750
18.00	31	58,095	20,923	45,500	54,000	63,000
19.00	18	69,889	19,887	59,000	72,500	78,000
20.00	16	74,588	33,726	46,250	61,800	103,000
PhD						
Total	2062	55,684	16,808	44,000	52,275	63,000
7.00	16	43,626	8,836	37,850	42,580	50,850
8.00	39	44,621	11,388	40,000	42,960	48,000
9.00	67	42,070	7,851	38,000	41,000	46,000
10.00	134	46,889	10,068	40,000	45,000	51,200
11.00	305	49,383	11,338	42,000	47,000	53,000
12.00	363	51,709	11,526	43,000	50,000	58,000
13.00	269	53,973	12,618	45,000	52,000	60,000
14.00	215	56,368	14,867	46,500	54,750	63,000
15.00	162	56,589	13,150	47,800	54,660	64,100
16.00	154	61,371	14,484	51,400	61,000	70,400
17.00	102	62,388	15,194	54,000	60,000	68,000
18.00	116	71,624	19,518	58,622	68,750	82,000
19.00	67	81,745	22,598	67,000	80,000	96,000
20.00	46	81,643	34,674	60,000	75,000	95,000

Note: Cells with fewer than 15 cases have been suppressed.

A respondent's responsibility score is derived from adding the responses to Questions VI. A through D on the questionnaire.

14 Table 1.2.2 SALARIES of MEN CHEMISTS employed FULL-TIME in INDUSTRY according to DEGREE and RESPONSIBILITY 1987 ACS Salary Survey

Degree and Responsibility	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	999	39,235	15,903	28,500	36,000	46,665
6.00	19	23,977	4,254	21,590	23,500	26,000
7.00	45	26,596	7,290	21,500	25,300	28,500
8.00	61	30,191	8,220	24,000	28,000	35,000
9.00	81	30,951	9,614	24,180	28,725	36,500
10.00	108	33,597	9,166	28,000	33,000	38,950
11.00	133	37,361	10,135	30,600	35,800	45,000
12.00	117	39,251	9,966	32,000	38,868	45,900
13.00	104	40,803	14,075	31,000	38,950	48,700
14.00	75	40,312	11,972	33,000	38,400	48,800
15.00	61	42,521	10,557	36,000	43,000	49,900
16.00	49	46,997	14,342	35,200	46,000	55,000
17.00	47	47,952	14,889	35,000	49,000	56,000
18.00	41	51,523	17,220	40,000	47,000	60,000
19.00	22	61,117	26,603	47,000	54,000	68,000
20.00	25	75,109	37,632	50,000	60,300	85,200
MS						
Total	725	45,474	15,498	35,000	42,500	52,000
7.00	27	32,096	6,205	28,560	31,000	35,000
8.00	39	33,778	7,285	29,176	33,600	37,500
9.00	44	36,339	9,203	30,000	35,000	42,250
10.00	70	37,678	10,028	31,100	35,500	43,500
11.00	100	42,218	10,022	35,000	40,800	48,500
12.00	107	45,419	12,580	36,900	43,151	51,000
13.00	74	47,201	10,758	39,200	47,050	56,000
14.00	62	50,307	12,458	42,000	48,500	57,500
15.00	44	47,036	13,916	37,500	45,000	55,500
16.00	44	50,167	13,775	41,000	50,000	56,075
17.00	40	51,967	13,080	42,100	51,000	64,250
18.00	30	58,365	21,225	45,500	54,500	63,000
19.00	18	69,889	19,887	59,000	72,500	78,000
20.00	15	76,893	33,579	50,900	62,500	106,000
PhD						
Total	1891	56,453	17,047	44,900	53,000	64,200
8.00	33	44,072	11,469	40,000	42,600	47,000
9.00	58	42,777	7,683	39,000	41,015	46,757
10.00	120	47,417	10,249	40,148	45,000	51,250
11.00	270	49,769	11,665	42,000	47,390	53,000
12.00	331	52,543	11,642	43,800	51,300	59,000
13.00	252	54,377	12,811	45,750	52,150	60,000
14.00	193	57,038	14,853	48,700	55,000	64,400
15.00	153	57,010	13,298	48,000	55,000	65,000
16.00	139	62,219	14,599	52,000	61,750	72,000
17.00	100	62,495	15,322	54,500	60,000	68,000
18.00	112	71,563	19,552	58,622	68,750	81,750
19.00	66	82,044	22,637	68,000	80,000	96,000
20.00	46	81,643	34,674	60,000	75,000	95,000

Note: Cells with fewer than 15 cases have been suppressed.

A respondent's responsibility score is derived from adding the responses to Questions VI. A through D on the questionnaire.

SALARIES of WOMEN CHEMISTS employed FULL-TIME in INDUSTRY
according to DEGREE and RESPONSIBILITY
1987 ACS Salary Survey

Degree and Responsibility	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	298	30,763	8,897	24,800	30,000	35,000
7.00	28	26,202	4,615	23,275	25,300	29,375
8.00	35	28,733	6,946	23,500	27,500	32,000
9.00	40	28,884	6,850	23,250	30,000	33,000
10.00	36	29,218	7,550	23,950	29,250	33,750
11.00	53	29,998	7,760	24,300	30,000	35,000
12.00	27	34,687	9,653	29,000	31,000	37,000
13.00	25	34,607	9,483	28,000	34,990	41,000
MS						
Total	162	36,631	10,617	30,000	35,017	42,200
9.00	23	30,912	5,167	27,600	31,000	33,200
10.00	31	34,195	7,460	30,000	35,000	39,000
11.00	17	35,334	7,092	32,500	36,000	40,000
12.00	15	37,086	9,008	30,800	37,401	44,650
14.00	17	43,326	10,551	35,034	45,000	47,500
PhD						
Total	169	47,110	10,728	40,000	44,600	53,000
11.00	34	46,443	8,021	40,044	43,780	52,320
12.00	32	43,080	4,930	40,000	42,000	45,680
13.00	17	47,999	8,019	41,700	46,600	56,000
14.00	22	50,490	13,963	44,000	45,650	56,500

Note: Cells with fewer than 15 cases have been suppressed.

A respondent's responsibility score is derived from adding the responses to Questions VI. A through D on the questionnaire.

Table 1.3.1

SALARIES of BS CHEMISTS employed FULL-TIME in INDUSTRY
according to WORK SPECIALTY and YEARS SINCE BS
1987 ACS Salary Survey

Work Specialty & Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Biochemistry						
Total	29	32,251	12,867	25,000	28,725	35,000
General Chemistry						
Total	67	38,624	12,112	28,500	37,000	48,000
5-9	19	35,033	8,446	28,000	35,000	42,000
Agricultural/Food Chemistry						
Total	55	38,512	17,100	26,000	32,261	49,900
Analytical Chemistry						
Total	455	34,179	10,905	26,000	32,207	40,000
2-4	84	24,629	4,881	21,160	24,550	27,450
5-9	122	29,587	5,809	25,000	30,000	34,000
10-14	63	34,422	8,336	28,600	32,000	38,000
15-19	50	37,415	7,693	32,000	36,425	42,000
20-24	37	42,757	10,130	36,495	39,900	50,200
25-29	34	46,640	11,821	40,000	45,665	52,000
30-34	20	44,393	8,851	39,450	43,250	48,550
35-39	27	45,406	13,059	39,250	45,000	52,400
Clinical Chemistry						
Total	15	36,489	14,139	26,000	36,000	43,500
Environmental Chemistry						
Total	122	34,043	12,885	25,800	31,000	41,000
2-4	20	24,327	6,847	19,700	22,500	29,215
5-9	40	30,004	7,403	25,000	28,050	35,000
10-14	20	33,461	9,666	26,500	34,350	39,950
15-19	16	45,336	18,336	36,250	39,750	46,625
Inorganic Chemistry						
Total	39	39,819	12,355	30,000	36,000	45,000
Materials Science						
Total	77	41,968	14,436	31,000	38,900	52,000
5-9	16	34,314	5,055	31,060	34,705	36,250
Medicinal/Pharmaceutical Chemistry						
Total	78	34,082	11,999	24,260	32,600	41,000
2-4	21	23,966	4,886	22,500	24,200	26,000
5-9	18	29,181	6,548	24,000	28,571	35,000
Organic Chemistry						
Total	128	40,631	19,562	28,150	35,340	48,000
2-4	15	26,242	2,691	24,000	26,500	28,200
5-9	26	29,468	4,546	27,000	28,914	32,000
10-14	17	35,386	6,151	31,600	34,500	38,000
15-19	19	42,202	12,238	34,500	40,000	46,776
25-29	15	48,749	10,672	41,040	50,000	60,000

Table 1.3.1 (Cont'd)

Work Specialty & Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Physical Chemistry						
Total	26	44,130	26,909	31,200	35,000	45,900
Polymer Chemistry						
Total	200	42,534	16,773	30,000	40,250	51,500
2-4	33	27,307	6,938	22,880	26,400	30,000
5-9	33	32,185	5,408	28,700	32,000	35,000
10-14	25	36,795	9,469	31,400	36,000	43,000
20-24	21	46,058	11,620	40,400	47,220	54,000
25-29	16	47,997	9,359	41,500	45,188	53,500
30-34	23	54,724	16,001	45,600	50,000	65,000
35-39	28	58,375	18,597	44,450	54,300	63,000
Other Chemical Science						
Total	45	39,915	22,631	30,000	37,000	42,500

NOTE: Cells with fewer than 15 cases have been suppressed.

Table 1.3.2

SALARIES of BS CHEMISTS employed FULL-TIME in INDUSTRY
according to WORK FUNCTION and YEARS SINCE BS
1987 ACS Salary Survey

Work Function and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
R&D Mgt						
Total	110	51,325	14,788	42,000	50,500	60,000
20-24	21	52,820	8,847	47,000	52,200	60,000
30-34	15	63,280	16,099	52,000	60,000	71,000
35-39	19	56,727	7,524	53,000	56,088	61,000
Basic Research						
Total	86	30,032	8,070	24,000	28,000	34,000
2-4	29	24,386	3,218	22,500	24,300	26,400
5-9	28	29,290	4,457	26,150	29,700	32,600
Applied Research						
Total	451	35,539	11,223	27,150	33,072	42,000
2-4	85	26,936	5,035	24,180	26,400	29,000
5-9	125	30,402	5,921	27,000	30,000	35,000
10-14	57	34,451	8,255	29,810	32,000	39,000
15-19	44	40,124	7,854	35,700	39,970	45,000
20-24	31	45,723	9,362	39,277	43,500	53,000
25-29	31	44,314	11,428	36,000	42,000	50,668
30-34	23	50,094	11,968	45,000	48,300	54,000
35-39	32	48,285	10,877	40,000	48,400	56,600
General Mgt						
Total	104	49,645	25,089	35,000	44,978	56,500
5-9	18	34,687	8,321	29,300	36,000	37,500
10-14	16	40,196	7,128	35,500	36,900	45,000
35-39	17	80,356	41,583	52,700	70,600	85,200
Marketing						
Total	100	43,617	17,048	33,800	42,100	50,000
5-9	21	33,818	7,189	29,500	33,000	37,000
10-14	17	38,238	8,923	30,000	37,500	45,000
Production						
Total	298	32,428	10,278	25,000	31,000	39,708
2-4	53	23,521	4,902	20,000	23,000	27,400
5-9	76	29,111	6,309	25,000	27,500	33,000
10-14	49	35,246	7,949	30,000	34,000	40,100
15-19	31	34,918	8,221	28,000	35,500	41,700
20-24	22	36,048	9,107	30,000	34,000	43,000
25-29	19	42,710	8,417	35,600	43,000	48,000
35-39	16	42,902	15,501	31,425	41,000	47,500
Forensics						
Total	70	30,535	9,381	23,500	30,000	35,200
5-9	25	28,466	5,880	23,500	30,000	31,000
Chemistry Info Services						
Total	17	36,901	10,782	30,000	35,000	45,000
Consulting						
Total	21	39,052	24,454	25,400	29,000	43,000
Other						
Total	74	37,773	13,684	30,100	35,800	43,000
5-9	18	32,132	6,194	27,500	33,490	36,400

NOTE: Cells with fewer than 15 cases have been suppressed.
The "other" category includes writing and computer programming.

Table 1.3.3

SALARIES of BS CHEMISTS employed FULL-TIME
according to INDUSTRY and YEARS SINCE BS
1987 ACS Salary Survey

Industry and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Non-Manufacturing						
Total	176	32,440	13,621	23,650	29,200	39,025
2-4	37	22,909	5,073	19,400	22,000	27,000
5-9	66	29,568	7,774	24,000	28,600	35,000
10-14	19	32,129	8,606	25,000	32,500	38,900
15-19	16	43,519	18,768	31,000	41,000	46,125
Basic Chemicals						
Total	52	38,404	12,446	29,250	36,250	46,555
Specialty Chemicals						
Total	176	39,696	17,237	28,910	35,000	46,700
2-4	21	25,897	4,307	22,500	26,400	28,900
5-9	42	30,949	6,662	25,000	30,700	35,000
10-14	24	35,857	9,111	30,750	33,550	41,500
15-19	19	37,805	8,842	34,000	36,400	41,650
20-24	16	46,332	12,015	37,950	47,000	54,200
25-29	19	56,650	28,932	42,000	50,000	59,600
30-34	16	50,515	15,365	40,950	46,000	62,500
Agricultural Chemicals						
Total	31	35,052	12,240	28,000	32,200	40,736
Coatings and Paints						
Total	67	41,624	23,547	28,000	36,000	50,000
Electronics						
Total	43	38,426	10,418	30,368	38,000	41,600
Food						
Total	62	35,382	13,675	25,124	32,150	45,000
Petroleum/Natural Gas						
Total	45	45,092	17,400	33,600	42,000	53,500
Pharmaceuticals						
Total	226	34,598	10,667	26,000	32,350	40,100
2-4	53	25,915	4,260	24,000	25,500	27,150
5-9	61	30,501	5,799	26,000	30,000	35,000
10-14	31	36,529	9,007	30,500	34,000	39,000
15-19	24	41,706	10,348	36,225	39,800	44,500
20-24	15	39,944	8,784	33,000	39,900	48,000
Plastics						
Total	62	39,534	18,173	27,000	38,854	48,000
Rubber						
Total	35	45,139	15,957	33,000	44,000	53,000

Table 1.3.3 (Cont'd)

Industry and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Metals, Minerals						
Total	52	39,974	14,091	30,000	36,475	47,430
Other Manufactures						
Total	309	37,590	14,110	28,620	35,463	45,000
2-4	46	25,334	5,108	21,500	25,250	28,185
5-9	78	31,665	6,045	28,400	31,750	35,966
10-14	45	33,815	8,165	29,000	33,700	37,500
15-19	32	42,601	9,287	35,750	42,797	47,250
20-24	26	43,770	10,361	35,000	43,120	50,000
25-29	20	46,100	14,726	33,500	44,285	56,882
30-34	19	50,908	16,344	43,000	48,000	53,000
35-39	33	50,352	22,858	40,100	48,000	53,000

Note: Cells with fewer than 15 cases have been suppressed.
The "metals, minerals" category includes steel or ferrous metals and other metals, minerals.
The "other manufactures" category includes biochemical products, glass and ceramics, paper, and soaps and detergents.

Table 1.3.4

SALARIES of BS CHEMISTS employed FULL-TIME
according to GEOGRAPHIC REGION and YEARS SINCE BS
1987 ACS Salary Survey

Geographic Region & Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Pacific						
Total	96	39,748	15,303	29,315	37,000	47,100
5-9	26	32,467	5,548	28,200	33,000	37,000
10-14	15	40,776	8,735	32,200	39,000	48,000
Mountain						
Total	41	34,556	11,367	27,360	35,500	40,500
West North Central						
Total	68	32,835	11,297	25,000	30,000	36,700
2-4	17	24,706	3,473	22,300	24,000	26,000
5-9	19	29,355	5,698	25,000	28,000	35,000
West South Central						
Total	86	40,073	17,827	27,141	35,000	48,800
5-9	21	29,384	6,125	24,148	29,000	31,320
East North Central						
Total	379	35,926	12,509	26,900	33,000	43,000
2-4	69	25,673	4,815	22,500	26,000	28,000
5-9	101	30,676	6,709	26,600	30,000	35,000
10-14	55	35,440	8,581	31,000	33,000	39,000
15-19	29	40,978	9,212	35,400	38,300	47,500
20-24	29	41,499	9,989	34,000	41,000	50,000
25-29	24	46,631	11,109	38,964	44,000	55,250
30-34	24	50,650	16,035	45,300	48,150	60,180
35-39	29	50,823	12,880	43,000	52,400	60,000
East South Central						
Total	44	33,879	9,525	24,390	34,300	41,438
Middle Atlantic						
Total	336	38,762	13,937	29,050	36,000	45,188
2-4	56	26,081	6,735	21,900	26,000	28,553
5-9	65	31,126	5,540	27,500	31,800	35,000
10-14	49	34,664	8,187	30,000	34,000	40,000
15-19	35	41,121	10,071	36,000	40,000	45,000
20-24	26	47,960	10,473	40,000	47,833	54,000
25-29	32	48,858	10,717	43,500	50,000	56,290
30-34	27	53,044	17,627	42,000	48,000	60,000
35-39	31	50,750	11,029	44,000	48,600	56,000
South Atlantic						
Total	168	37,020	12,620	27,384	35,800	45,250
2-4	19	23,847	5,189	20,800	24,000	29,000
5-9	50	29,716	7,100	24,000	28,974	35,300
10-14	23	37,878	8,355	32,600	37,200	43,000
15-19	20	44,115	9,050	39,250	43,397	48,000
20-24	16	43,542	10,093	37,650	43,050	49,956
New England						
Total	108	40,511	26,886	27,075	33,900	45,250
2-4	17	24,799	3,669	22,360	24,500	27,150
5-9	21	31,096	6,970	25,700	30,400	35,000
10-14	15	35,601	9,209	28,000	31,500	45,000

Note: Cells with fewer than 15 cases have been suppressed.

 Table 1.3.5

SALARIES of BS CHEMISTS employed FULL-TIME in INDUSTRY
according to SELECTED STATES
1987 ACS Salary Survey

Selected States	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Arizona	17	33,993	11,676	28,000	31,600	38,600
California	92	39,939	15,527	29,315	37,000	47,100
Colorado	15	33,317	13,556	22,000	32,000	44,800
Connecticut	44	45,301	33,396	29,000	38,350	49,150
Florida	28	34,291	11,364	26,500	30,050	41,897
Georgia	23	35,196	9,557	25,124	34,800	42,400
Illinois	107	35,295	12,395	25,400	31,900	43,000
Indiana	41	33,934	10,268	26,900	32,500	41,000
Louisiana	19	36,756	12,266	26,550	32,500	50,000
Massachusetts	48	35,902	15,352	26,000	33,430	41,350
Maryland	21	41,176	15,740	32,000	40,400	48,000
Michigan	76	33,720	10,644	26,800	32,000	36,000
Minnesota	20	32,650	12,564	22,350	28,500	44,000
Missouri	27	34,061	9,925	28,000	31,200	36,400
North Carolina	32	36,204	13,478	26,034	33,750	45,250
New Jersey	126	41,298	14,904	30,000	39,025	50,000
New York	93	36,668	12,570	28,000	34,528	43,000
Ohio	116	38,642	13,857	27,700	35,900	50,000
Pennsylvania	117	37,695	13,589	28,600	35,800	44,325
South Carolina	23	37,608	14,324	25,000	38,000	46,500
Tennessee	18	35,734	9,206	24,000	38,200	42,000
Texas	59	41,316	19,752	27,141	35,000	46,728
Virginia	24	37,726	12,975	26,250	37,050	49,000
Wisconsin	39	35,969	13,216	28,000	32,000	41,000

Note: Cells with fewer than 15 cases have been suppressed.

SALARIES of BS CHEMISTS employed FULL-TIME in INDUSTRY
according to SELECTED METROPOLITAN AREAS
1987 ACS Salary Survey

Selected Metropolitan Areas	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Atlanta	16	35,766	10,445	26,612	34,500	42,700
Baltimore	16	40,550	12,994	31,000	43,000	47,500
Boston	35	37,893	15,779	30,135	35,000	42,000
Chicago	80	33,776	11,691	25,200	31,000	36,750
Cincinnati	24	38,077	13,234	27,240	34,600	46,800
Cleveland-Akron	39	36,346	12,057	26,961	35,000	45,000
Columbus	19	36,595	13,881	26,000	32,000	50,000
Detroit	23	39,333	13,739	29,000	36,000	46,700
Houston-Beaumont	20	46,011	22,353	28,700	42,500	59,500
Los Angeles	34	40,453	15,977	29,650	38,000	48,000
Newark	51	41,493	16,908	30,000	39,000	49,900
New York	21	40,008	12,144	32,800	36,000	50,000
Philadelphia	47	36,600	13,937	26,000	34,700	42,000
Pittsburgh	22	41,194	12,615	31,380	39,555	47,982
St. Louis	19	35,443	10,900	28,000	33,000	39,000
San Francisco	36	38,502	14,912	28,250	35,483	44,978

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.4.1

SALARIES of MS CHEMISTS employed FULL-TIME in INDUSTRY
according to WORK SPECIALTY and YEARS SINCE MS
1987 ACS Salary Survey

Work Specialty and Years Since MS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Biochemistry						
Total	26	40,274	12,274	33,300	36,750	46,000
General Chemistry						
Total	24	45,651	16,871	31,322	41,620	57,250
Agricultural/Food Chemistry						
Total	36	45,540	17,278	32,400	42,450	54,500
Analytical Chemistry						
Total	203	40,217	13,712	31,000	38,000	46,000
5-9	40	29,993	5,579	27,050	30,350	33,100
10-14	40	36,428	7,790	31,500	36,500	41,900
15-19	41	43,036	15,433	36,000	41,000	45,500
20-24	23	39,848	10,434	29,320	41,000	48,208
25-29	21	50,261	10,057	43,920	47,327	60,000
Environmental Chemistry						
Total	75	43,399	19,561	30,700	39,500	51,000
10-14	24	35,100	8,337	30,250	34,100	39,460
Inorganic Chemistry						
Total	18	52,431	20,382	38,000	48,850	66,000
Materials Science						
Total	62	46,931	11,988	38,844	45,000	52,000
Medicinal/Pharmaceutical Chemistry						
Total	67	42,142	13,026	32,700	39,500	48,000
Organic Chemistry						
Total	93	44,059	17,981	33,000	40,000	50,000
5-9	24	32,080	5,173	28,070	32,450	34,314
10-14	15	37,409	6,379	31,700	36,000	41,663
Physical Chemistry						
Total	20	49,818	20,337	36,500	46,500	52,598
Polymer Chemistry						
Total	128	46,960	12,057	38,750	46,000	54,250
5-9	17	35,721	6,162	35,000	36,000	39,800
10-14	24	42,268	6,646	38,750	42,500	47,000
15-19	25	46,504	13,649	35,100	48,000	53,000
Other Chemical Science						
Total	42	45,790	12,275	36,000	44,650	56,000

Note: Cells with fewer than 15 cases have been suppressed
The "other chemical science" category includes clinical chemistry.

Table 1.4.2

SALARIES of MS CHEMISTS employed FULL-TIME in INDUSTRY
according to WORK FUNCTION and YEARS SINCE MS
1987 ACS Salary Survey

Work Function and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
R&D Mgt						
Total	105	57,055	14,119	48,000	55,000	64,800
10-14	18	45,229	8,501	41,663	44,000	50,960
15-19	16	54,281	10,360	45,350	53,000	61,500
20-24	17	60,256	14,343	50,280	60,000	71,220
25-29	19	62,609	10,898	56,000	62,000	71,800
Basic Research						
Total	51	37,813	9,944	31,000	36,000	44,900
5-9	24	32,668	5,405	30,075	32,450	35,500
Applied Research						
Total	308	41,561	10,334	33,900	40,622	48,000
5-9	58	33,694	5,759	30,000	33,100	35,400
10-14	64	39,667	6,851	34,800	40,000	44,200
15-19	60	41,284	8,478	35,000	41,640	47,100
20-24	21	41,009	9,347	34,000	41,000	46,000
25-29	24	46,944	9,818	42,000	45,100	50,550
30-34	33	50,045	11,047	41,736	49,000	58,000
35-39	26	49,737	10,888	40,000	51,120	56,000
General Mgt						
Total	53	57,986	25,416	40,000	48,450	67,140
Marketing						
Total	66	46,082	13,261	36,000	44,250	54,800
Production						
Total	106	37,680	11,532	29,100	35,550	44,000
5-9	21	28,599	6,159	23,800	27,400	33,000
10-14	22	33,030	6,825	28,776	33,500	36,750
15-19	27	43,573	10,786	35,100	42,000	50,500
Forensics						
Total	28	31,706	8,036	25,200	30,950	38,700
Chemistry Info Services						
Total	16	40,071	9,730	33,720	37,700	47,500
Consulting						
Total	19	39,547	16,420	29,000	32,000	44,000
Other						
Total	42	42,784	20,243	32,100	37,960	47,327

Note: Cells with fewer than 15 cases have been suppressed.
The "other" category includes writing and computer programming.

Table 1.4.3

SALARIES of MS CHEMISTS employed FULL-TIME
according to INDUSTRY and YEARS SINCE MS
1987 ACS Salary Survey

Industry and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Non-Manufacturing						
Total	95	40,424	16,967	30,500	37,401	46,000
5-9	17	29,869	7,022	25,000	28,500	34,800
10-14	24	37,093	10,797	30,600	35,500	43,000
15-19	19	46,381	21,385	36,700	38,560	51,000
Basic Chemicals						
Total	44	46,584	15,691	36,200	43,704	55,460
Specialty Chemicals						
Total	97	46,591	15,809	34,800	43,080	54,000
10-14	15	43,122	8,049	40,000	41,000	44,000
15-19	22	43,779	12,152	33,516	44,040	52,000
35-39	16	50,781	17,139	36,600	49,500	56,846
Agricultural Chemicals						
Total	31	43,710	20,654	31,200	43,151	49,600
Biochemical Products						
Total	17	35,744	10,986	28,440	34,000	41,000
Coatings and Paints						
Total	34	42,956	11,118	35,000	41,832	50,700
Electronics						
Total	30	51,176	22,301	38,844	46,000	55,000
Food						
Total	34	46,428	16,546	35,000	42,300	50,000
Petroleum/Natural Gas						
Total	31	49,389	19,654	33,000	48,500	60,800
Pharmaceuticals						
Total	150	41,257	12,809	32,040	38,000	46,000
5-9	28	29,881	4,112	27,400	30,075	32,750
10-14	34	37,170	5,115	33,000	37,000	41,200
15-19	29	43,566	10,228	36,000	42,768	48,700
25-29	16	56,147	13,892	44,775	56,250	67,500
Plastics						
Total	46	46,734	11,798	41,000	46,250	53,000
Rubber						
Total	19	48,727	11,432	38,000	48,000	55,000

Table 1.4.3 (Cont'd)

Industry and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Metals, Minerals						
Total	15	37,149	9,556	28,700	38,000	43,920
Other Manufactures						
Total	151	43,758	12,987	34,163	41,000	52,000
5-9	28	32,307	4,452	29,097	33,000	35,000
10-14	37	38,754	7,719	33,100	36,500	44,600
15-19	21	43,300	7,540	39,000	43,000	45,000
20-24	15	52,607	16,127	41,000	49,620	66,000

Note: Cells with fewer than 15 cases have been suppressed.
The "metals, minerals" category includes steel or ferrous metals and other metals, minerals.
The "other manufactures" category includes glass and ceramics, paper, and soaps and detergents.

Table 1.4.4

SALARIES of MS CHEMISTS employed FULL-TIME
according to GEOGRAPHIC REGION and YEARS SINCE BS
1987 ACS Salary Survey

Geographic Region & Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Pacific						
Total	77	42,556	12,226	34,000	42,000	47,760
5-9	20	33,185	6,210	30,000	33,500	36,000
Mountain						
Total	15	39,233	11,975	30,000	38,000	51,000
West North Central						
Total	46	39,598	12,134	31,500	37,568	45,000
West South Central						
Total	57	46,273	16,649	35,000	43,500	52,000
East North Central						
Total	199	43,276	15,657	33,000	39,500	50,400
5-9	31	31,351	5,494	27,100	30,900	35,000
10-14	46	40,326	9,372	34,200	38,200	46,000
15-19	40	42,614	11,780	34,000	39,750	49,600
25-29	15	57,525	17,263	45,840	55,000	62,500
30-34	20	45,408	12,012	38,248	42,550	50,500
35-39	20	56,880	27,554	37,000	51,200	67,000
East South Central						
Total	22	46,907	12,100	40,000	46,514	51,240
Middle Atlantic						
Total	203	44,990	16,460	33,000	42,240	53,500
5-9	27	32,243	7,412	29,040	31,000	35,000
10-14	51	37,392	7,703	31,000	37,000	42,500
15-19	29	45,394	10,538	37,100	45,000	53,000
20-24	21	42,984	13,065	37,500	42,000	45,000
25-29	21	56,675	14,819	48,000	57,500	68,000
30-34	18	56,458	14,078	50,800	54,000	58,000
35-39	17	58,347	17,190	50,000	58,600	61,300
South Atlantic						
Total	102	43,402	15,914	34,900	41,200	49,000
5-9	26	32,267	6,277	27,400	33,700	36,300
10-14	17	39,690	7,689	37,000	41,000	43,000
15-19	16	51,257	22,044	41,000	46,100	53,500
New England						
Total	66	45,882	13,799	35,000	41,568	55,000
5-9	15	35,247	6,233	31,200	33,200	41,000

Note: Cells with fewer than 15 cases have been suppressed.

SALARIES of MS CHEMISTS employed FULL-TIME in INDUSTRY
according to SELECTED STATES
1987 ACS Salary Survey

Selected States	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
California	86	42,633	12,158	34,000	40,922	48,000
Connecticut	33	46,125	15,466	35,000	41,736	51,500
Delaware	18	44,085	16,673	33,516	41,100	50,000
Florida	16	46,466	21,369	32,200	46,460	57,922
Illinois	60	43,426	19,404	31,500	39,400	47,100
Indiana	22	38,618	10,836	32,520	35,850	43,400
Massachusetts	31	46,570	11,729	37,524	48,000	55,000
Michigan	57	40,647	12,295	32,000	37,404	50,000
Minnesota	15	41,099	10,539	35,000	37,920	44,200
Missouri	22	41,269	12,052	31,500	37,950	48,000
North Carolina	33	39,706	10,484	33,000	41,000	45,000
New Jersey	116	45,186	13,540	34,000	44,000	53,750
New York	71	47,231	20,219	33,400	44,600	54,000
Ohio	68	45,386	15,041	33,475	43,800	54,500
Pennsylvania	57	39,723	12,887	30,500	37,500	44,676
Texas	40	48,342	17,334	36,900	45,100	52,000

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.4.6

SALARIES of MS CHEMISTS employed FULL-TIME in INDUSTRY
according to SELECTED METROPOLITAN AREAS
1987 ACS Salary Survey

Selected Metropolitan Areas	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Boston	25	47,973	11,686	41,000	48,000	55,000
Chicago	51	44,691	20,704	31,500	40,000	48,000
Cincinnati	16	42,578	20,474	32,730	34,750	46,960
Cleveland-Akron	34	48,984	11,750	39,000	49,500	57,500
Detroit	15	43,064	9,907	34,500	42,000	51,000
Houston-Beaumont	23	47,957	18,344	37,800	43,500	60,000
Los Angeles	32	41,760	12,828	31,500	39,750	47,800
Newark	75	44,195	12,966	34,000	44,000	53,500
Philadelphia	24	45,234	14,717	34,000	43,500	58,000
Pittsburgh	15	38,123	11,120	30,500	37,971	45,800
San Francisco	34	45,899	12,091	37,800	43,800	52,000

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.5.1

SALARIES of PhD CHEMISTS employed FULL-TIME in INDUSTRY
according to WORK SPECIALTY and YEARS SINCE BS
1987 ACS Salary Survey

Work Specialty and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Biochemistry						
Total	94	54,886	18,881	42,000	50,000	61,100
10-14	31	47,144	8,932	40,000	46,000	50,000
15-19	18	52,094	14,845	42,000	54,000	58,800
20-24	17	60,759	16,876	48,000	56,000	64,000
General Chemistry						
Total	34	62,060	23,166	46,032	59,605	65,000
Agricultural/Food Chemistry						
Total	78	56,283	17,059	44,775	52,600	67,300
10-14	21	44,314	5,640	40,000	44,117	48,540
Analytical Chemistry						
Total	324	52,311	12,678	43,000	50,000	60,000
5-9	42	41,106	4,122	39,200	41,000	43,000
10-14	73	45,802	6,395	41,000	45,000	49,800
15-19	72	52,374	9,899	46,618	52,850	58,610
20-24	71	57,766	11,923	50,000	56,000	64,000
25-29	23	56,545	10,070	46,000	60,000	62,900
30-34	20	62,239	16,663	51,800	59,500	68,000
35-39	20	65,400	19,215	53,500	62,300	71,200
Clinical Chemistry						
Total	25	60,953	23,557	45,000	54,000	65,000
Environmental Chemistry						
Total	89	53,222	16,458	43,680	52,000	62,000
10-14	15	43,459	7,534	37,080	44,580	50,600
15-19	18	50,459	10,462	42,000	51,027	56,200
20-24	20	60,466	25,340	50,500	57,800	68,500
Inorganic Chemistry						
Total	83	53,165	16,653	42,000	49,800	60,000
5-9	15	39,700	6,175	36,900	40,000	42,800
10-14	22	45,654	6,605	42,180	45,580	50,000
15-19	15	49,936	8,778	42,000	51,000	56,000
Materials Science						
Total	123	59,815	19,269	47,300	55,000	69,000
10-14	26	48,427	8,024	45,000	48,000	52,766
15-19	15	55,538	9,268	49,632	55,000	62,300
20-24	24	59,340	12,320	49,400	57,500	68,750
25-29	17	72,809	23,157	60,000	69,000	76,800
35-39	16	74,006	27,333	52,000	70,450	87,450

Table 1.5.1 (Cont'd)

Work Specialty and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Medicinal/Pharmaceutical Chemistry						
Total	168	57,544	17,585	44,634	52,160	67,000
5-9	22	42,861	4,070	41,000	43,000	44,000
10-14	39	46,497	8,646	40,200	45,300	50,000
15-19	29	54,091	12,648	46,700	49,000	57,000
20-24	33	62,844	17,832	54,000	60,000	67,500
25-29	19	76,311	20,111	64,000	74,000	89,000
Organic Chemistry						
Total	297	55,136	15,876	42,850	52,000	63,120
5-9	36	41,722	5,892	39,550	40,390	42,350
10-14	70	46,018	6,070	42,000	44,970	50,000
15-19	56	51,049	9,582	43,600	50,640	58,600
20-24	47	59,629	10,673	52,000	58,000	68,000
25-29	33	69,568	17,651	53,000	66,000	85,400
30-34	28	67,593	24,510	51,750	63,000	86,500
35-39	17	67,417	14,073	63,200	67,000	73,440
Physical Chemistry						
Total	96	58,274	15,223	47,000	56,000	65,550
10-14	15	48,025	7,318	42,000	46,380	54,000
15-19	22	54,061	8,310	49,200	56,000	60,000
20-24	19	58,492	9,482	53,100	56,000	65,100
Polymer Chemistry						
Total	363	56,471	16,088	44,500	53,000	64,200
5-9	37	41,653	4,014	39,500	40,300	43,800
10-14	63	47,358	6,505	42,420	45,000	52,000
15-19	57	52,609	9,406	45,000	52,000	60,000
20-24	57	61,701	19,388	50,400	59,000	69,000
25-29	55	63,220	14,796	54,000	60,000	68,640
30-34	41	61,415	17,033	50,500	60,000	70,000
35-39	40	66,255	17,573	53,500	63,578	79,250
Other Chemical Science						
Total	60	58,131	18,098	48,000	54,000	63,100
20-24	16	60,183	10,097	52,175	59,500	65,500

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.5.2

SALARIES of PhD CHEMISTS employed FULL-TIME in INDUSTRY
according to WORK FUNCTION and YEARS SINCE BS
1987 ACS Salary Survey

Work Function and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
R&D Mgt						
Total	432	67,891	18,581	55,000	65,000	76,400
10-14	45	51,624	7,705	46,000	52,000	55,000
15-19	87	59,433	10,932	54,180	59,220	64,000
20-24	120	67,851	16,104	59,122	65,550	72,650
25-29	61	79,808	18,826	66,000	75,500	90,000
30-34	49	75,953	20,181	64,500	70,000	87,000
35-39	46	80,566	20,523	66,900	81,500	92,000
40 Or More	15	64,158	16,378	53,000	60,000	76,000
Basic Research						
Total	275	51,390	12,843	42,000	48,000	57,100
5-9	59	41,524	3,394	39,640	41,000	44,000
10-14	80	45,511	6,277	41,000	45,000	50,000
15-19	48	53,829	9,164	48,200	51,170	60,000
20-24	31	58,549	9,742	53,000	55,500	65,000
25-29	25	58,670	12,579	51,000	58,000	65,100
Applied Research						
Total	850	51,018	12,570	42,000	49,000	57,240
5-9	116	41,036	5,620	38,450	40,255	42,825
10-14	229	45,899	6,264	41,700	44,940	50,000
15-19	161	49,434	8,048	44,000	49,200	54,000
20-24	125	53,770	8,817	47,805	54,100	60,000
25-29	83	59,757	11,981	51,060	60,000	66,000
30-34	67	61,368	21,429	50,000	59,100	64,000
35-39	54	63,629	15,037	53,000	62,000	73,500
40 Or More	15	60,457	19,183	40,200	58,300	80,000
General Mgt						
Total	58	65,605	22,158	53,000	63,500	75,000
Marketing						
Total	52	53,673	15,548	44,500	52,000	58,960
20-24	16	55,438	9,433	48,500	55,200	61,750
Production						
Total	56	50,596	15,667	42,050	46,113	54,750
Forensics						
Total	25	49,822	9,164	44,340	48,000	56,000
Consulting						
Total	30	53,779	19,327	37,200	50,000	70,000
Other						
Total	38	57,022	15,553	47,000	55,750	68,000

NOTE: Cells with fewer than 15 cases have been suppressed.
The "other" category includes writing and computer programming.

Table 1.5.3

SALARIES of PhD CHEMISTS employed FULL-TIME
according to INDUSTRY and YEARS SINCE BS
1987 ACS Salary Survey

Industry and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Non-Manufacturing						
Total	131	50,768	14,391	40,000	48,400	58,500
10-14	24	43,959	10,497	37,500	41,900	49,000
15-19	41	50,187	10,229	41,000	49,548	58,000
20-24	23	51,328	13,648	43,680	50,000	60,000
Basic Chemicals						
Total	167	58,056	18,378	44,900	53,760	65,000
5-9	19	41,419	3,385	39,500	41,030	42,500
10-14	40	46,072	5,691	42,550	44,800	48,520
15-19	26	55,405	8,149	49,000	54,300	62,500
20-24	29	60,281	11,729	53,000	59,000	69,000
25-29	19	70,079	19,549	56,600	64,400	80,000
30-34	15	77,273	31,642	59,100	66,000	77,000
35-39	17	73,252	16,386	63,200	65,820	78,000
Specialty Chemicals						
Total	300	53,572	15,560	42,380	50,150	60,000
5-9	34	41,686	8,246	38,000	40,000	42,400
10-14	68	45,609	6,455	41,450	44,420	49,300
15-19	48	47,145	8,102	42,000	46,779	52,900
20-24	57	59,774	15,324	53,000	57,500	64,200
25-29	37	64,287	18,331	52,000	60,500	69,000
30-34	26	65,449	17,051	52,000	62,813	86,000
35-39	23	59,940	18,374	46,000	57,700	79,000
Agricultural Chemicals						
Total	92	54,333	13,534	43,000	52,320	66,450
10-14	23	43,781	5,224	39,600	42,000	46,000
15-19	17	51,748	15,366	44,000	52,440	56,000
20-24	23	58,758	9,664	50,000	59,800	68,400
Biochemical Products						
Total	44	57,248	25,231	40,000	51,650	61,500
Coatings and Paints						
Total	55	52,160	10,936	43,000	50,200	60,000
Electronics						
Total	73	55,148	13,747	47,000	53,000	61,700
10-14	24	49,883	8,677	45,500	50,500	55,000
Food						
Total	43	58,924	20,723	45,000	55,000	66,000
Glass, Ceramics						
Total	18	60,683	15,056	51,000	61,700	70,400
Paper						
Total	22	57,573	11,923	49,500	54,500	67,500
Petroleum/Natural Gas						
Total	117	63,624	18,008	51,000	59,000	73,800
10-14	31	51,249	6,854	44,500	52,000	56,000
15-19	21	54,045	8,359	49,632	53,000	58,700
20-24	19	67,377	12,811	59,000	65,000	76,020

Table 1.5.3 (Cont'd)

Industry and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Pharmaceuticals						
Total	315	55,974	16,834	43,620	52,000	64,000
5-9	40	41,399	4,485	39,600	41,089	43,325
10-14	77	46,701	6,880	42,000	45,700	50,000
15-19	59	53,387	12,385	46,700	52,000	58,116
20-24	53	60,946	13,794	53,340	60,000	67,000
25-29	35	70,546	19,291	54,000	70,000	85,000
30-34	25	71,183	22,797	55,000	70,321	80,000
35-39	17	71,042	17,396	62,000	67,000	75,000
Plastics						
Total	111	58,210	19,378	44,500	53,000	67,000
10-14	22	45,992	6,328	43,500	44,750	48,000
15-19	17	53,671	10,034	47,000	49,300	61,000
20-24	23	68,467	26,030	53,000	61,536	78,000
Rubber						
Total	26	57,828	14,775	50,000	55,000	61,100
Soaps, Detergents						
Total	33	51,592	14,512	41,500	45,000	61,000
Metals, Minerals						
Total	17	46,921	6,107	43,800	45,000	50,000
Other Manufactures						
Total	270	55,551	14,936	45,000	53,000	62,800
5-9	27	41,034	5,484	38,000	40,400	45,000
10-14	48	46,525	6,716	42,420	46,460	51,800
15-19	54	55,505	11,174	47,632	55,000	63,000
20-24	49	58,232	11,665	50,000	58,000	66,000
25-29	34	60,777	17,411	48,960	57,500	65,820
30-34	25	60,671	16,587	51,600	60,700	62,800
35-39	28	68,174	18,176	52,250	66,000	80,000

Note: Cells with fewer than 15 cases have been suppressed.
The "metals,minerals" category includes steel or ferrous metals and other metals, minerals.

Table 1.5.4

SALARIES of PhD CHEMISTS employed FULL-TIME
according to GEOGRAPHIC REGION and YEARS SINCE BS
1987 ACS Salary Survey

Geographic Region & Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Pacific						
Total	176	57,149	16,822	45,000	54,248	65,000
10-14	42	46,064	8,280	40,860	45,500	50,600
15-19	36	53,217	11,803	46,850	54,090	59,125
20-24	38	63,103	12,567	54,315	60,000	69,000
25-29	21	66,622	12,824	57,000	65,000	73,000
Mountain						
Total	41	47,204	12,383	40,000	47,632	53,340
West North Central						
Total	85	54,357	16,945	42,900	50,000	65,000
10-14	20	45,320	5,591	41,210	44,970	51,400
15-19	17	54,108	15,138	45,000	52,300	58,000
West South Central						
Total	146	58,042	16,745	45,000	54,200	66,000
10-14	34	45,988	7,699	40,500	44,400	51,000
15-19	26	52,211	8,733	46,000	51,600	60,000
20-24	34	61,468	12,138	52,000	60,000	69,100
25-29	16	72,615	19,055	59,000	64,500	88,460
East North Central						
Total	421	55,824	17,032	44,000	52,320	63,000
5-9	51	42,067	4,491	39,000	41,000	44,000
10-14	100	46,406	6,583	42,000	45,000	50,125
15-19	68	53,092	10,230	46,268	53,350	60,000
20-24	70	61,260	16,957	52,000	59,122	67,200
25-29	61	65,350	16,284	54,000	62,790	71,000
30-34	32	71,128	28,358	55,750	65,200	88,500
35-39	28	67,257	18,281	54,000	64,100	77,000
East South Central						
Total	38	51,731	12,539	44,000	49,174	60,000
Middle Atlantic						
Total	541	56,189	15,687	45,000	53,000	64,000
5-9	62	42,510	4,855	40,000	41,000	44,000
10-14	113	47,675	6,271	42,720	48,000	52,000
15-19	96	53,135	10,337	46,100	52,850	59,750
20-24	102	60,130	16,659	50,100	58,000	67,000
25-29	51	65,173	15,697	54,036	64,900	75,000
30-34	58	64,431	15,693	53,000	61,313	73,500
35-39	42	69,789	21,058	55,200	67,750	79,500
40 Or More	17	67,591	15,856	57,500	66,000	77,000
South Atlantic						
Total	228	54,070	15,884	43,590	51,600	60,000
5-9	23	39,394	5,178	37,000	39,960	43,000
10-14	42	44,995	6,653	40,500	44,800	48,700
15-19	45	49,887	8,409	44,400	50,200	55,000
20-24	34	54,827	12,057	47,000	54,450	60,000
25-29	27	60,927	15,136	51,650	60,000	65,820
30-34	22	66,454	23,316	51,600	62,000	68,400
35-39	25	67,074	17,842	57,000	62,100	80,000

Table 1.5.4 (Cont'd)

Geographic Region & Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
New England						
Total	131	57,882	20,541	42,500	54,000	68,000
10-14	26	46,963	9,553	42,000	44,630	52,000
15-19	28	55,011	14,135	43,531	52,900	62,850
20-24	23	62,635	22,288	51,000	59,000	70,000

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.5.5

SALARIES of PhD CHEMISTS employed FULL-TIME in INDUSTRY
according to SELECTED STATES
1987 ACS Salary Survey

Selected States	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
California	193	56,707	16,725	45,000	53,000	65,000
Connecticut	56	63,215	23,916	46,350	56,375	72,768
Delaware	76	58,508	17,992	45,800	54,500	65,410
Florida	21	45,998	13,613	37,000	42,000	50,000
Georgia	19	54,157	14,167	44,180	52,000	60,000
Illinois	129	57,415	19,061	44,000	52,000	63,000
Indiana	52	60,787	23,462	45,000	56,000	68,000
Louisiana	35	54,927	15,223	41,300	52,600	65,000
Massachusetts	76	55,434	15,783	42,000	53,500	65,550
Maryland	25	51,079	15,787	40,500	47,800	56,200
Michigan	133	54,489	15,919	43,000	50,000	63,700
Minnesota	40	53,837	13,109	43,970	51,490	64,000
Missouri	44	53,046	18,440	40,850	47,700	58,500
North Carolina	55	53,521	15,302	43,680	50,000	59,500
New Jersey	265	58,863	17,835	47,000	55,000	67,000
New York	166	56,098	16,496	45,000	52,000	63,300
Ohio	135	53,345	13,136	44,000	52,000	60,240
Oklahoma	25	62,299	18,177	47,280	60,000	76,020
Pennsylvania	205	54,186	14,877	43,800	51,600	61,536
South Carolina	20	52,172	12,671	44,750	51,540	62,000
Tennessee	26	51,775	15,654	43,000	47,000	57,400
Texas	104	56,890	16,737	44,400	52,988	63,800
Virginia	25	54,196	11,755	46,000	52,000	60,000
Wisconsin	23	50,247	11,902	40,000	49,000	60,000
West Virginia	21	50,596	9,153	44,580	50,000	54,900

Note: Cells with fewer than 15 cases have been suppressed.

Table 1.5.6

SALARIES of PhD CHEMISTS employed FULL-TIME in INDUSTRY
according to SELECTED METROPOLITAN AREAS
1987 ACS Salary Survey

Selected Metropolitan Areas	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Boston	61	52,944	16,717	40,000	47,500	63,000
Chicago	115	57,842	21,167	44,000	52,000	63,000
Cincinnati	44	53,644	15,635	43,250	48,500	62,300
Cleveland-Akron	54	52,898	12,563	44,000	52,460	59,736
Dallas	15	61,480	14,282	52,000	60,000	66,000
Detroit	49	54,837	15,635	44,000	50,000	65,000
Houston-Beaumont	53	58,958	18,021	44,500	54,000	67,300
Los Angeles	52	58,858	17,567	44,900	54,090	65,850
Newark	127	58,987	17,163	47,000	55,000	68,500
New York	22	52,385	11,664	42,000	51,500	59,300
Philadelphia	106	52,941	12,634	43,200	50,960	60,000
Pittsburgh	33	55,788	20,330	42,000	51,600	62,500
St. Louis	38	52,165	13,493	41,250	49,450	60,000
San Francisco	106	57,177	16,441	45,300	54,658	65,000
Washington, DC	18	49,686	11,858	40,500	47,400	56,200

Note: Cells with fewer than 15 cases have been suppressed.

Table 2.1.1

SALARIES of GOVERNMENT CHEMISTS employed FULL-TIME
according to DEGREE and YEARS SINCE BS
1987 ACS Salary Survey

Degree and Years Since BS	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	194	34,543	11,152	26,600	32,000	42,340
2-4	24	24,451	4,240	21,201	24,000	27,564
5-9	35	25,503	5,753	22,000	26,000	28,078
10-14	24	32,880	6,902	26,800	32,534	36,445
15-19	31	35,931	8,154	29,800	32,600	41,000
20-24	31	38,995	10,129	29,736	40,000	42,600
25-29	19	41,741	10,605	32,508	43,000	50,346
MS						
Total	104	35,159	10,445	28,000	33,200	41,679
5-9	19	26,494	4,565	22,458	27,000	30,000
10-14	16	30,291	5,653	26,150	30,000	34,637
15-19	20	37,947	7,714	30,750	37,500	42,600
20-24	17	39,565	11,823	34,000	39,000	50,343
PhD						
Total	306	50,183	12,800	41,309	50,338	59,488
5-9	15	36,419	6,323	32,000	37,000	41,309
10-14	37	40,958	10,554	35,000	40,100	48,000
15-19	36	47,516	10,386	40,710	50,319	54,450
20-24	76	48,757	11,404	41,250	47,200	55,395
25-29	44	54,000	10,839	46,064	55,000	60,650
30-34	39	54,811	11,821	48,000	54,900	61,500
35-39	42	56,326	14,345	50,000	59,950	65,400
40 Or More	17	58,757	12,151	51,000	59,488	69,000

Note: Cells with fewer than 15 cases have been suppressed.

Table 2.2.1

SALARIES of GOVERNMENT CHEMISTS employed FULL-TIME
according to DEGREE and RESPONSIBILITY
1987 ACS Salary Survey

Degree and Responsibility	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	191	34,414	11,059	26,600	32,000	42,000
4-8	30	26,924	6,056	22,458	27,674	30,000
9-12	90	31,008	8,019	24,731	30,000	36,900
13-16	56	40,756	10,380	32,300	42,000	49,850
17-20	15	46,147	15,769	32,000	51,200	58,000
MS						
Total	112	36,070	10,642	28,078	34,874	42,171
9-12	58	34,526	8,154	29,000	33,200	41,000
13-16	33	40,135	11,664	30,500	38,000	48,000
PhD						
Total	333	50,293	12,657	41,726	50,338	59,300
9-12	94	43,155	11,344	35,326	41,985	48,876
13-16	158	51,866	10,770	45,500	52,000	59,212
17-20	68	58,674	11,907	51,518	59,750	68,923

Note: Cells with fewer than 15 cases have been suppressed.

A respondent's responsibility score is derived from adding the responses to Questions VI. A through D on the questionnaire.

Table 2.3.1

SALARIES of GOVERNMENT CHEMISTS employed FULL-TIME
according to WORK SPECIALTY and DEGREE
1987 ACS Salary Survey

Work Specialty & Degree	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	194	34,543	11,152	26,600	32,000	42,340
Analytical Chemistry	82	35,276	11,672	27,172	32,450	42,952
Environmental Chemistry	57	33,142	9,821	26,300	30,513	39,039
MS						
Total	115	35,948	10,744	28,000	34,747	42,341
Analytical Chemistry	47	33,231	9,542	27,000	31,300	38,000
Environmental Chemistry	32	36,715	10,729	28,750	36,770	43,500
PhD						
Total	340	50,199	12,693	41,500	50,319	59,394
Biochemistry	42	47,510	13,299	37,000	47,407	59,000
Agricultural/Food Chemistry	27	52,730	11,566	45,600	53,000	60,000
Analytical Chemistry	74	45,613	11,341	37,067	45,023	52,000
Environmental Chemistry	50	50,731	13,714	42,000	50,669	59,000
Materials Science	24	53,143	11,896	42,300	52,550	64,678
Medicinal/Pharmaceutical Chemistry	17	44,075	14,462	41,000	46,000	51,000
Organic Chemistry	17	52,742	11,902	45,000	54,400	60,000
Physical Chemistry	51	55,268	12,163	50,000	54,000	64,562

Note: Cells with fewer than 15 cases have been suppressed.

Table 2.4.1

SALARIES of GOVERNMENT CHEMISTS employed FULL-TIME
according to WORK FUNCTION and DEGREE
1987 ACS Salary Survey

Work Function and Degree	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
BS						
Total	194	34,543	11,152	26,600	32,000	42,340
Basic Research	21	34,265	9,511	29,000	30,000	39,200
Applied Research	25	37,517	9,903	30,200	36,911	43,000
General Mgt	30	40,819	12,939	29,600	37,714	50,000
Production	24	32,313	9,639	25,000	31,238	40,282
Forensics	58	29,887	8,903	23,000	28,650	36,000
Other	20	34,388	12,262	26,000	28,530	42,600
MS						
Total	115	35,948	10,744	28,000	34,747	42,341
Applied Research	23	36,109	8,939	30,000	35,000	41,358
General Mgt	16	39,461	11,796	29,750	36,750	50,200
Forensics	29	29,038	5,345	26,000	29,028	33,400
Other	17	37,386	9,088	30,500	37,040	45,000
PhD						
Total	340	50,199	12,693	41,500	50,319	59,394
R&D Mgt	63	60,525	10,347	52,000	60,000	69,000
Basic Research	128	49,350	12,271	41,000	50,000	59,000
Applied Research	63	47,380	9,349	40,000	47,000	54,400
General Mgt	31	52,568	10,887	45,000	53,010	60,000
Forensics	21	36,530	11,405	30,000	34,500	42,000
Other	15	43,010	12,075	39,000	45,128	50,338

Note: Cells with fewer than 15 cases have been suppressed.

Table 2.5.1

SALARIES of CHEMISTS employed FULL-TIME in GOVERNMENT
according to DEGREE and SEX
1987 ACS Salary Survey

Degree and Sex	Count	Mean	Standard Deviation	25th %-ile	50th %-ile	75th %-ile
Men						
BS	141	36,538	11,291	28,078	35,400	44,400
MS	77	35,710	10,196	29,000	33,400	42,000
PhD	281	50,853	12,904	42,000	50,350	60,000
Women						
BS	53	29,236	8,883	24,000	27,172	32,400
MS	27	33,588	11,175	26,000	31,000	39,000
PhD	25	42,649	8,662	35,820	42,000	50,300

Note: Cells with fewer than 15 cases have been suppressed.

American Chemical Society

OFFICE OF THE
EXECUTIVE DIRECTOR

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
Phone (202) 872-4600

February 24, 1987

Dear Colleague:

Each year the American Chemical Society studies the economic status of the U.S. chemical profession by surveying a sample of ACS members. You are one of about 25,000 members I am asking to participate in this survey, conducted under the aegis of the Joint Board-Council Committee on Economic Status. This year, the ACS will conduct a special study of the economic status of member chemical engineers. This year's sample, therefore, includes more than the usual number of chemical engineers.

Because a high response rate is needed to assure accurate results, your participation is an important service to our colleagues. Please take a few minutes now to complete the questionnaire and return it in the enclosed business reply envelope. The procedure is confidential, and the information you provide will be reported only as a part of aggregated data.

Findings will be reported to ACS members in several ways. Preliminary results will be presented at the spring meeting in Denver; early in the summer, the ACS will publish detailed analyses as Salaries 1987. At about the same time, Chemical and Engineering News will publish a cover story on the salaries and employment status of chemists and chemical engineers.

Please feel free to use the back of the questionnaire for whatever comments or suggestions you might care to make.

Thank you for your assistance.

Sincerely,

John K Crum

John K Crum

Encl.

AMERICAN CHEMICAL SOCIETY

1987 Comprehensive Salary and Employment Status Survey

I. EDUCATION AND EMPLOYMENT STATUS

A. PLEASE INDICATE THE YEAR IN WHICH YOU EARNED ANY OF THE FOLLOWING DEGREES:

Bachelor's	19 __ __	1-2
Master's	19 __ __	3-4
Doctorate	19 __ __	5-6

B. PLEASE CHECK THE APPROPRIATE BOX IN EACH COLUMN.

	Field of highest degree	ONE specialty most related to your current or most recent job	
Chemical engineering	☐ 01	☐ 01	
Biochemistry	☐ 02	☐ 02	
General chemistry	☐ 03	☐ 03	
Agricultural/food chemistry	☐ 04	☐ 04	
Analytical chemistry	☐ 05	☐ 05	
Clinical chemistry	☐ 06	☐ 06	
Environmental chemistry	☐ 07	☐ 07	
Inorganic chemistry	☐ 08	☐ 08	
Materials science	☐ 09	☐ 09	
Medicinal/pharmaceutical chemistry	☐ 10	☐ 10	
Organic chemistry	☐ 11	☐ 11	
Physical chemistry	☐ 12	☐ 12	
Polymer chemistry	☐ 13	☐ 13	
Other chemical science	☐ 14	☐ 14	
Business Administration	☐ 15	☐ 15	
Other Non-chemistry	☐ 16	☐ 16	7-10

C. Were you unemployed at any time during the calendar year 1986?

No ☐ 1 Yes ☐ 2 11

If yes, how many total weeks were you not employed and actively seeking employment during calendar year 1986?

__ __ weeks (ENTER A NUMBER FROM 1 TO 52) 12-13

D. PLEASE ENTER YOUR PRIMARY EMPLOYMENT STATUS AS OF MARCH 1, 1987. CHOOSE THE ONE CATEGORY THAT BEST FITS YOUR SITUATION.

Employed full-time (35 hours or more per week)	1
Employed part-time	2
Postdoctoral or other fellowship	3
Not employed but actively seeking employment	4
Not employed and NOT seeking employment	5 14

G. If you were UNEMPLOYED on March 1, how long had you been unemployed?

Less than 1 month	1
1 to 3 months	2
4 to 6 months	3
7 to 12 months	4
More than 1 year	5 15

H. If you were EMPLOYED on March 1, what are the first three digits of the zip code where you work?

__ __ __ 16-18

II. QUESTIONS ABOUT YOURSELF

A. Your sex:

Male ☐ 1 Female ☐ 2 19

B. Your marital status:

Single ☐ 1 Married ☐ 2 20

C. Age at last birthday before March 1, 1987:

__ __ years old 21-22

D. Citizenship or visa status:

U.S. native	☐ 1
U.S. naturalized	☐ 2
U.S. permanent resident visa	☐ 3
Other visa	☐ 4 23

E. Race or ethnic group:

American Indian or Alaskan Native	☐ 1
Asian or Pacific Islander	☐ 2
Black (not of Hispanic origin)	☐ 3
Hispanic	☐ 4
White	☐ 5
Other race or ethnic group	☐ 6 24

F. Please enter the two-letter post office abbreviation for the STATE in which you live.

__ __ 25-26

IF YOU ARE NOT CURRENTLY EMPLOYED, PLEASE SKIP TO SECTION IV, MOST RECENT OR CURRENT JOB.

III. CURRENT INCOME

A. If you are CURRENTLY EMPLOYED, how long have you worked for your current employer?

__ __ years __ __ months 27-30

B. BASE ANNUAL SALARY from PRINCIPAL JOB as of March 1, 1987. (DO NOT INCLUDE payments for bonus, second job, overtime work, summer teaching, or other supplemental earnings or employment.) If zero, please indicate. If on a 9 or 10 month contract, report the 9 or 10 month salary rather than an annualized salary.

$ _____ per year 31-36

C. TOTAL PROFESSIONAL INCOME during calendar year 1986. (INCLUDE consulting fees, base annual salary, income from second job, bonuses, payments for overtime, summer teaching, and other supplemental earnings.)

$ _____ per year 37-42

D. If you are currently employed, does your employer pay your ACS dues?

Yes ☐ 1 No ☐ 2 43

IV. DESCRIBE YOUR CURRENT OR MOST RECENT JOB.

IF YOUR CURRENT OR MOST RECENT EMPLOYER IS NOT AN ACADEMIC INSTITUTION, GO TO SECTION V AT THE TOP OF THE NEXT COLUMN.

CURRENT OR MOST RECENT EMPLOYMENT IS IN AN ACADEMIC INSTITUTION.

A. Current (or most recent) principal employer.

1. Public institution ☐ 1 Private institution ☐ 2 44

2. High school ☐ 1
   Medical or professional school ☐ 2
   College or university where the highest degree offered in chemical science is:
   - Associate ☐ 3
   - Bachelor's ☐ 4
   - Master's ☐ 5
   - Doctorate ☐ 6 45

B. Your academic rank:

- Full professor ☐ 1
- Associate professor ☐ 2
- Assistant professor, tenure track ☐ 3
- Instructor, lecturer, or non-tenure track ☐ 4
- Non-teaching research associate ☐ 5
- My institution does not have ranks ☐ 6 46

C. Have you been granted tenure?

Yes ☐ 1 No ☐ 2 47

D. Your basic contract is for a period of:

- 9 or 10 months ☐ 1
- 11 or 12 months ☐ 2 48

E. About what fraction of your total academic year assignment is devoted to:

	1/4 or less	1/3	1/2	2/3	3/4	full-time	
Teaching	☐	☐	☐	☐	☐	☐	49
Research	☐	☐	☐	☐	☐	☐	50
Administration	☐	☐	☐	☐	☐	☐	51
Other	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	52

F. What was your principal professional activity during the SUMMER OF 1986?

- Teaching ☐ 1
- Funded research or study ☐ 2
- Unpaid scholarly/academic ☐ 3
- Administration ☐ 4
- Consulting ☐ 5
- Non-academic employment ☐ 6
- Other ☐ 7 53

THANK YOU. YOU HAVE COMPLETED THE QUESTIONNAIRE. PLEASE USE THE BLANK SPACE ON THE BACK OF THIS QUESTIONNAIRE FOR COMMENTS.

V. CURRENT OR MOST RECENT EMPLOYMENT IS NOT IN AN ACADEMIC INSTITUTION.

A. Current (or most recent) principal employer.

- Self-employed ☐ 01
- Private industry
  - Non-manufacturing ☐ 02
  - Manufacturing
    - Basic chemicals ☐ 03
    - Specialty chemicals ☐ 04
    - Agricultural chemicals ☐ 05
    - Biochemical products ☐ 06
    - Coatings and paints ☐ 07
    - Electronics ☐ 08
    - Food ☐ 09
    - Glass, ceramics ☐ 10
    - Paper ☐ 11
    - Petroleum/natural gas ☐ 12
    - Pharmaceuticals, personal care ☐ 13
    - Plastics ☐ 14
    - Rubber ☐ 15
    - Soaps, detergents, surfactants ☐ 16
    - Steel or ferrous metals ☐ 17
    - Other metals, minerals ☐ 18
    - Other manufactures (specify) _____ ☐ 19
- Government
  - Federal (civilian) ☐ 20
  - State or local ☐ 21
  - Military ☐ 22
- Other non-academic
  - Hospitals, independent laboratory ☐ 23
  - Non-profit organization, other research institution ☐ 24
  - Other employment ☐ 25 54-55

B. Check the ONE work function that best describes your job.

- Research and Development
  - Management or administration of R&D ☐ 01
  - Basic research ☐ 02
  - Applied research, development, design ☐ 03
- General management, administration (other than research and development) ☐ 04
- Marketing, sales, purchasing, technical service, economic evaluation ☐ 05
- Production, quality control ☐ 06
- Forensic analysis, other laboratory analysis ☐ 07
- Writing, editing, abstracting ☐ 08
- Chemistry information services ☐ 09
- Computer programming, analysis, design ☐ 10
- Consulting ☐ 11
- Other ☐ 12 56-57

C. Were you eligible for a bonus during calendar 1986?

Yes ☐ 1 No ☐ 2 58

D. Did you receive a bonus during calendar 1986?

Yes ☐ 1 No ☐ 2 59

IF yes, please indicate amount

$_____ 60-64

VI. LEVEL OF RESPONSIBILITY:

Please examine the statements within each of the four groups (Duties, Technical Decisions and Recommendations, Supervision Received, and Supervision Exercised) and, within each group, check the box of the statement that most closely corresponds to your responsibility on the job.

A. Duties:

- I receive on-the-job training working on simple projects or assisting more senior staff ☐ 1
- I perform responsible and varied assignments within projects ☐ 2
- I plan, conduct, and coordinate projects of some complexity ☐ 3
- I undertake long-term and short-term planning and supervision of projects. I make decisions on work programs and have budgetary control of projects ☐ 4
- I have full managerial responsibility for a function with full responsibility for the operation of a budget and long term planning ☐ 5 65

B. Technical Decisions and Recommendations:

- I am responsible for minor technical details only, all other matters being checked ☐ 1
- I am responsible for technical detail which is reviewed overall ☐ 2
- I am responsible for technical matters but am subject to occasional review ☐ 3
- I have full technical responsibility for projects ☐ 4
- I am responsible for all technical matters including the delegation of responsibility ☐ 5 66

C. Supervision Received:

- My work is assigned with detailed instructions, guidance being always available. My results are subject to close scrutiny ☐ 1
- My work is assigned in terms of detailed objectives and priorities, guidance being available on problems and unusual features. My work is subject to scrutiny ☐ 2
- My work is assigned in terms of general objectives and priorities, guidance being available on policy or unusually complex problems. My work is reviewed for effectiveness only ☐ 3
- My work is such that I receive executive instruction on broad overall objectives and it is reviewed only for its general effectiveness and adherence to policy ☐ 4
- My work is unsupervised, other than I comply with the policy decided within the governing body ☐ 5 67

D. Supervision Exercised:

- I have no authority but may give technical guidance to juniors working on the same project ☐ 1
- I have no managerial responsibilities for qualified staff but may be assigned graduates, technicians, or other juniors as assistants from time to time ☐ 2
- I supervise a group of qualified staff, technicians, and other employees. I assign and review their work. I can recommend on the selection, discipline, rating, training, and perhaps rate of pay ☐ 3
- I am responsible for leaders of groups containing qualified staff, technicians, and other employees. I give guidance on policy and complex technical matters delegating responsibility for discipline, rating, training, and rates of pay ☐ 4
- I have full control over senior staff who are in turn responsible for groups of qualified staff and other employees ☐ 5 68

THANK YOUR FOR YOUR PARTICIPATION.

PLEASE RETURN THIS QUESTIONNAIRE TO
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Salaries: The Office of Statistical Services annually surveys the ACS membership, gathering detailed information on member chemists and chemical engineers. The reports based on this survey contain statistical tables describing the respondents' employment status, employer, work function and specialty, salaries, and demographic characteristics.

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